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Claims

1. A valve assembly comprising a valve stem (14) defining a bore (15) and at least one radial port (17), and having an outlet end (16), and a sleeve (18) closed at one end slidable over the valve stem (14) to obstruct the or each radial port (17) in the valve stem (14), characterised in that the valve stem (14) at the end opposite the outlet end (16) defines a fluidic vortex chamber (22) having at least one generally tangential inlet (28) and at least one non-tangential peripheral inlet (26) and having an axial outlet (24) communicating with the bore (15), and the sleeve (18) defines at least one port (32) near the closed end of the sleeve.

2. A valve assembly as claimed in claim 1 in which there are a plurality of non-tangential peripheral inlets (26) that communicate with the end face of the valve stem (14).

3. A valve assembly as claimed in claim 2 wherein the non-tangential peripheral inlets (26) extend parallel to the longitudinal axis of the valve stem (14).

4. A valve assembly as claimed in claim 1 or claim 2 also defining a plurality of tangential inlets (28).

5. A valve assembly as claimed in claim 4 wherein the tangential inlets (28) are linked by a groove (30).

6. A valve assembly as claimed in claim 5 wherein the groove (30) is a peripheral groove around the outside of the valve stem (14).